

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
6 March 2003 (06.03.2003)

PCT

(10) International Publication Number
WO 2003/019459 A3

(51) International Patent Classification⁷: H04L 9/00, 4561 W. Westchester Lane, Libertyville, IL 60048-4877 G06F 15/16 (US).

(21) International Application Number: (74) Agents: COHEN, Eric, D. et al.; Welsh & Katz, Ltd., PCT/US2002/026617 120 South Riverside Plaza, 22nd Floor, Chicago, IL 60606 (US).

(22) International Filing Date: 22 August 2002 (22.08.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/314,926 24 August 2001 (24.08.2001) US
10/164,070 6 June 2002 (06.06.2002) US

(71) Applicant: ZIH CORP. [US/US]; 1201 Market Street, Wilmington, DE 19801 (US).

(72) Inventors: HOHBERGER, Clive, P.; 630 Vernon Avenue, #5, Glencoe, IL 60022 (US). TSIRLINE, Boris, Y.;

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.

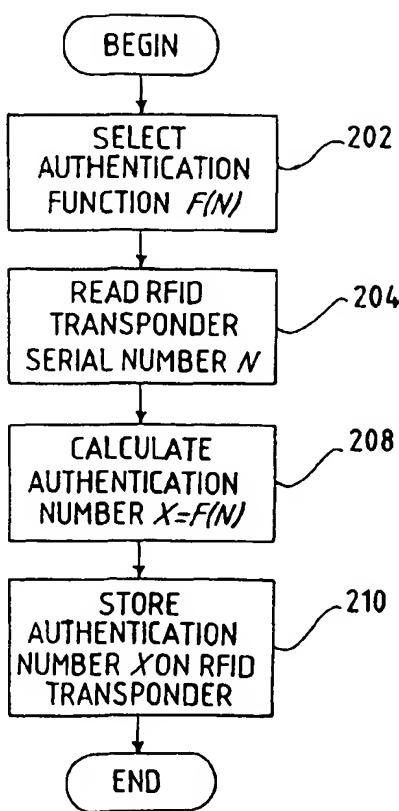
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK,

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR ARTICLE AUTHENTICATION



WO 2003/019459 A3



(57) Abstract: An authentication method for authenticating an article (Fig. 2a, 202, 204, 208, 210) in a device includes the steps of a) reading an identification number stored on the article, b) reading an authentication number stored on the article, c) determining an input number based at least in part on the identification number, d) applying an authentication function to the input number to calculate an output number, e) determining that the article is authentic only if the authentication number corresponds to the output number, and f) permitting use of the article in the device if the article is authentic, and disabling use of the article in the device if the article is not authentic.



TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, (88) Date of publication of the International search report:
GW, ML, MR, NE, SN, TD, TG). 4 March 2004

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/26617

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04L 9/00; G06F 15/16
 US CL : 713/150; 705/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 713/150; 705/50

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 ACM Portal; IEEE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 ACM Portal; IEEE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,754,656 A(NISHIOKA et al) 19 May 1998 (19.05.1998), see entire document ...	1-66
A	US 6,049,610 A(CRANDALL) 11 April 2000 (11.04.2000), see entire document ...	1-66
A	US 5,805,703 A(CRANDALL) 08 September 1998 (08.09.1998), see entire document ...	1-66
A	US 5,995,626 A(NISHIOKA et al) 30 November 1999 (30.11.1999), see entire document ...	1-66
A	US 5,724,425 A(CHANG et al) 03 March 1998 (03.03.1998), see entire document ...	1-66
A	US 6,099,178 A(SPURR et al) 08 August 2000 (08.08.2000), see entire document ...	1-66
A	Using smart cards to authenticate passwords, Chang, C.-C.; Hwang, R.-J.; Buehrer, D.; Security Technology, 1993. Security Technology, Proceedings. Institute of Electrical and Electronics Engineers 1993 International Carnahan Conference on , 13-15 Oct 1993 Page(s): 154 -156	1-66

<input checked="" type="checkbox"/>	Further documents are listed in the continuation of Box C.	<input type="checkbox"/>	See patent family annex.
*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

26 February 2003 (26.02.2003)

Date of mailing of the international search report

20 MAR 2003

Name and mailing address of the ISA/US
 Commissioner of Patents and Trademarks
 Box PCT
 Washington, D.C. 20231
 Facsimile No. (703)305-3230

Authorized officer
John Hollansbee James R. Matthews
 John Hollansbee
 Telephone No. (703) 308-3900

PCT/US02/26617

INTERNATIONAL SEARCH REPORT

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	An ID-based cryptographic technique for IFF, Tu, K.; Military Communications Conference, 1995. MILCOM '95, Conference Record, IEEE , Volume: 3 , 8 Nov 1995 Page(s): 1258 -1262 vol.3	1-66
A	Rajiv Gupta; Scott A. Smolka; Shaji Bhaskar; "On Randomization in Sequential and Distributed Algorithm" ; ACM Computing Surveys (CSUR), Volumn 26, Issue 1, (March 1994) Pages: 7-86	1-66